

SEQUENCE LISTING

<110> Croce, Carlo M.

<120> Nitrilase Homologs

<130> CRO01.NP001

<140> 09/357,675

<141> 1999-07-20

<150> 60/093,350

<151> 1998-07-20

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<212> DNA

<213> Homo sapiens

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<222> (19)...(19)

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gagaaccctg actctcttga tggaacacag atgggctgtct tggaaagaa acttccacct 1260
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tatttcatgg aaactgaagt tctgtggagg gctgagcgc actggcatttggaaaaatataa 1380
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MAR 13 2002
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<213> Homo sapiens

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<210> 18

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<213> Homo sapiens

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<210> 19

<211> 147

<212> PRT

<213> Homo sapien

<220>

<223> Xaa is an unknown amino acid

<400> 19

Met Ser Phe Arg Phe Gly Gln His Leu Ile Lys Pro Ser Val Val Phe

1 5 10 15

Leu Lys Thr Glu Leu Ser Phe Ala Leu Val Asn Arg Lys Pro Val Val

20 25 30

Pro Gly His Val Leu Val Cys Pro Leu Arg Pro Val Glu Arg Phe His

35 40 45

Asp Leu Arg Pro Asp Glu Val Ala Asp Leu Phe Gln Thr Thr Gln Arg

50 55 60

Val Gly Thr Val Val Glu Lys His Phe His Gly Thr Ser Leu Thr Phe

65 70 75 80
Ser Xaa Gln Asp Gly Pro Glu Ala Gly Gln Thr Val Lys His Val His
 85 90 95
Val His Val Leu Pro Arg Lys Ala Gly Asp Phe His Arg Asn Asp Ser
 100 105 110
Ile Tyr Glu Glu Leu Gln Lys His Asp Lys Glu Asp Phe Pro Ala Ser
 115 120 125
Trp Arg Ser Glu Glu Glu Ala Ala Glu Ala Ala Ala Leu Arg Val
 130 135 140
Tyr Phe Gln
145

<210> 20
<211> 150
<212> PRT
<213> murine

<400> 20
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Leu Lys Thr Glu Leu Ser Phe Ala Leu Val Asn Arg Lys Pro Val Val
20 25 30
Pro Gly His Val Leu Val Cys Pro Leu Arg Pro Val Glu Arg Phe Arg
35 40 45
Asp Leu His Pro Asp Glu Val Ala Asp Leu Phe Gln Val Thr Gln Arg
50 55 60
Val Gly Thr Val Val Glu Lys His Phe Gln Gly Thr Ser Ile Thr Phe
65 70 75 80
Ser Met Gln Asp Gly Pro Glu Ala Gly Gln Thr Val Lys His Val His
85 90 95
Val His Val Leu Pro Arg Lys Ala Gly Asp Phe Pro Arg Asn Asp Asn
100 105 110
Ile Tyr Asp Glu Leu Gln Lys His Asp Arg Glu Glu Asp Ser Pro
115 120 125
Ala Phe Trp Arg Ser Glu Lys Glu Met Ala Ala Glu Ala Glu Ala Leu
130 135 140
Arg Val Tyr Phe Gln Ala
145 150

<210> 21
<211> 327
<212> PRT
<213> Homo sapien

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Arg Pro Arg Ala Met Ala Ile Ser Ser Ser Ser Cys Glu Leu Pro Leu
35 40 45
Val Ala Val Cys Gln Val Thr Ser Thr Pro Asp Lys Gln Gln Asn Phe
50 55 60

Lys Thr Cys Ala Glu Leu Val Arg Glu Ala Ala Arg Leu Gly Ala Cys
 65 70 75 80
 Leu Ala Phe Leu Pro Glu Ala Phe Asp Phe Ile Ala Arg Asp Pro Ala
 85 90 95
 Glu Thr Leu His Leu Ser Glu Pro Leu Gly Gly Lys Leu Leu Glu Glu
 100 105 110
 Tyr Thr Gln Leu Ala Arg Glu Cys Gly Leu Trp Leu Ser Leu Gly Gly
 115 120 125
 Phe His Glu Arg Gly Gln Asp Trp Glu Gln Thr Gln Lys Ile Tyr Asn
 130 135 140
 Cys His Val Leu Leu Asn Ser Lys Gly Ala Val Val Ala Thr Tyr Arg
 145 150 155 160
 Lys Thr His Leu Cys Asp Val Glu Ile Pro Gly Gln Gly Pro Met Cys
 165 170 175
 Glu Ser Asn Ser Thr Met Pro Gly Pro Ser Leu Glu Ser Pro Val Ser
 180 185 190
 Thr Pro Ala Gly Lys Ile Gly Leu Ala Val Cys Tyr Asp Met Arg Phe
 195 200 205
 Pro Glu Leu Ser Leu Ala Leu Ala Gln Ala Gly Ala Glu Ile Leu Thr
 210 215 220
 Tyr Pro Ser Ala Phe Gly Ser Ile Thr Gly Pro Ala His Trp Glu Val
 225 230 235 240
 Leu Leu Arg Ala Arg Ala Ile Glu Thr Gln Cys Tyr Val Val Ala Ala
 245 250 255
 Ala Gln Cys Gly Arg His His Glu Lys Arg Ala Ser Tyr Gly His Ser
 260 265 270
 Met Val Val Asp Pro Trp Gly Thr Val Val Ala Arg Cys Ser Glu Gly
 275 280 285
 Pro Gly Leu Cys Leu Ala Arg Ile Asp Leu Asn Tyr Leu Arg Gln Leu
 290 295 300
 Arg Arg His Leu Pro Val Phe Gln His Arg Arg Pro Asp Leu Tyr Gly
 305 310 315 320
 Asn Leu Gly His Pro Leu Ser
 325

<210> 22
 <211> 323
 <212> PRT
 <213> murine

<400> 22
 Met Leu Gly Phe Ile Thr Arg Pro Pro His Gln Leu Leu Cys Thr Gly
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 Tyr Arg Leu Leu Arg Ile Pro Val Leu Cys Thr Gln Pro Arg Pro Arg
 20 25 30
 Thr Met Ser Ser Ser Thr Ser Trp Glu Leu Pro Leu Val Ala Val Cys
 35 40 45
 Gln Val Thr Ser Thr Pro Asn Lys Gln Glu Asn Phe Lys Thr Cys Ala
 50 55 60
 Glu Leu Val Gln Glu Ala Ala Arg Leu Gly Ala Cys Leu Ala Phe Leu
 65 70 75 80
 Pro Glu Ala Phe Asp Phe Ile Ala Arg Asn Pro Ala Glu Thr Leu Leu
 85 90 95
 Leu Ser Glu Pro Leu Asn Gly Asp Leu Leu Gly Gln Tyr Ser Gln Leu

100	105	110
Ala Arg Glu Cys Gly Ile Trp Leu Ser Leu Gly Gly Phe His Glu Arg		
115	120	125
Gly Gln Asp Trp Glu Gln Asn Gln Lys Ile Tyr Asn Cys His Val Leu		
130	135	140
Leu Asn Ser Lys Gly Ser Val Val Ala Ser Tyr Arg Lys Thr His Leu		
145	150	155
Cys Asp Val Glu Ile Pro Gly Gln Gly Pro Met Arg Glu Ser Asn Tyr		
165	170	175
Thr Lys Pro Gly Gly Thr Leu Glu Pro Pro Val Lys Thr Pro Ala Gly		
180	185	190
Lys Val Gly Leu Ala Ile Cys Tyr Asp Met Arg Phe Pro Glu Leu Ser		
195	200	205
Leu Lys Leu Ala Gln Ala Gly Ala Glu Ile Leu Thr Tyr Pro Ser Ala		
210	215	220
Phe Gly Ser Val Thr Gly Pro Ala His Trp Glu Val Leu Leu Arg Ala		
225	230	235
Arg Ala Ile Glu Ser Gln Cys Tyr Val Ile Ala Ala Ala Gln Cys Gly		
245	250	255
Arg His His Glu Thr Arg Ala Ser Tyr Gly His Ser Met Val Val Asp		
260	265	270
Pro Trp Gly Thr Val Val Ala Arg Cys Ser Glu Gly Pro Gly Leu Cys		
275	280	285
Leu Ala Arg Ile Asp Leu His Phe Leu Gln Gln Met Arg Gln His Leu		
290	295	300
Pro Val Phe Gln His Arg Arg Pro Asp Leu Tyr Gly Ser Leu Gly His		
305	310	315
Pro Leu Ser		

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 <211> 460
 <212> PRT
 <213> Drosophila melanogaster

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His Gln Gln Leu Arg Arg Met Ser Val Gln Lys Arg Lys Asp Gln Ser			
20	25	30	
Ala Thr Ile Ala Val Gly Gln Met Arg Ser Thr Ser Asp Lys Ala Ala			
35	40	45	
Asn Leu Ser Gln Val Ile Glu Leu Val Asp Arg Ala Lys Ser Gln Asn			
50	55	60	
Ala Cys Met Leu Phe Leu Pro Glu Cys Cys Asp Phe Val Gly Glu Ser			
65	70	75	80
Arg Thr Gln Thr Ile Glu Leu Ser Glu Gly Leu Asp Gly Glu Leu Met			
85	90	95	
Ala Gln Tyr Arg Glu Leu Ala Lys Cys Asn Lys Ile Trp Ile Ser Leu			
100	105	110	
Gly Gly Val His Glu Arg Asn Asp Gln Lys Ile Phe Asn Ala His Val			
115	120	125	
Leu Leu Asn Glu Lys Gly Glu Leu Ala Ala Val Tyr Arg Lys Leu His			
130	135	140	

Met Phe Asp Val Thr Thr Lys Glu Val Arg Leu Arg Glu Ser Asp Thr
 145 150 155 160
 Val Thr Pro Gly Tyr Cys Leu Glu Arg Pro Val Ser Thr Pro Val Gly
 165 170 175
 Gln Ile Gly Leu Gln Ile Cys Tyr Asp Leu Arg Phe Ala Glu Pro Ala
 180 185 190
 Val Leu Leu Arg Lys Leu Gly Ala Asn Leu Leu Thr Tyr Pro Ser Ala
 195 200 205
 Phe Thr Tyr Ala Thr Gly Lys Ala His Trp Glu Ile Leu Leu Arg Ala
 210 215 220
 Arg Ala Ile Glu Thr Gln Cys Phe Val Val Ala Ala Gln Ile Gly
 225 230 235 240
 Trp His Asn Gln Lys Arg Gln Ser Trp Gly His Ser Met Ile Val Ser
 245 250 255
 Pro Trp Gly Asn Val Leu Ala Asp Cys Ser Glu Gln Glu Leu Asp Ile
 260 265 270
 Gly Thr Ala Glu Val Asp Leu Ser Val Leu Gln Ser Leu Tyr Gln Thr
 275 280 285
 Met Pro Cys Phe Glu His Arg Arg Asn Asp Ile Tyr Ala Leu Thr Ala
 290 295 300
 Tyr Asn Leu Arg Ser Lys Glu Pro Thr Gln Asp Arg Pro Phe Ala Thr
 305 310 315 320
 Asn Ile Val Asp Lys Arg Thr Ile Phe Tyr Glu Ser Glu His Cys Phe
 325 330 335
 Ala Phe Thr Asn Leu Arg Cys Val Val Lys Gly His Val Leu Val Ser
 340 345 350
 Thr Lys Arg Val Thr Pro Arg Leu Cys Gly Leu Asp Cys Ala Glu Met
 355 360 365
 Ala Asp Met Phe Thr Thr Val Cys Leu Val Gln Arg Leu Leu Glu Lys
 370 375 380
 Ile Tyr Gln Thr Thr Ser Ala Thr Val Thr Val Gln Asp Gly Ala Gln
 385 390 395 400
 Ala Gly Gln Thr Val Pro His Val His Phe His Ile Met Pro Arg Arg
 405 410 415
 Leu Gly Asp Phe Gly His Asn Asp Gln Ile Tyr Val Lys Leu Asp Glu
 420 425 430
 Arg Ala Glu Glu Lys Pro Pro Arg Thr Ile Glu Glu Arg Ile Glu Glu
 435 440 445
 Ala Gln Ile Tyr Arg Lys Phe Leu Thr Asp Ile Ser
 450 455 460

<210> 24
 <211> 440
 <212> PRT
 <213> C. elegans

<400> 24
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 Ile Ala Val Cys Gln Met Thr Ser Asp Asn Asp Leu Glu Lys Asn Phe
 20 25 30
 Gln Ala Ala Lys Asn Met Ile Glu Arg Ala Gly Glu Lys Lys Cys Glu
 35 40 45
 Met Val Phe Leu Pro Glu Cys Phe Asp Phe Ile Gly Leu Asn Lys Asn

50 55 60
Glu Gln Ile Asp Leu Ala Met Ala Thr Asp Cys Glu Tyr Met Glu Lys
65 70 75 80
Tyr Arg Glu Leu Ala Arg Lys His Asn Ile Trp Leu Ser Leu Gly Gly
85 90 95
Leu His His Lys Asp Pro Ser Asp Ala Ala His Pro Trp Asn Thr His
100 105 110
Leu Ile Ile Asp Ser Asp Gly Val Thr Arg Ala Glu Tyr Asn Lys Leu
115 120 125
His Leu Phe Asp Leu Glu Ile Pro Gly Lys Val Arg Leu Met Glu Ser
130 135 140
Glu Phe Ser Lys Ala Gly Thr Glu Met Ile Pro Pro Val Asp Thr Pro
145 150 155 160
Ile Gly Arg Leu Gly Leu Ser Ile Cys Tyr Asp Val Arg Phe Pro Glu
165 170 175
Leu Ser Leu Trp Asn Arg Lys Arg Gly Ala Gln Leu Leu Ser Phe Pro
180 185 190
Ser Ala Phe Thr Leu Asn Thr Gly Leu Ala His Trp Glu Thr Leu Leu
195 200 205
Arg Ala Arg Ala Ile Glu Asn Gln Cys Tyr Val Val Ala Ala Ala Gln
210 215 220
Thr Gly Ala His Asn Pro Lys Arg Gln Ser Tyr Gly His Ser Met Val
225 230 235 240
Val Asp Pro Trp Gly Ala Val Val Ala Gln Cys Ser Glu Arg Val Asp
245 250 255
Met Cys Phe Ala Glu Ile Asp Leu Ser Tyr Val Asp Thr Leu Arg Glu
260 265 270
Met Gln Pro Val Phe Ser His Arg Arg Ser Asp Leu Tyr Thr Leu His
275 280 285
Ile Asn Glu Lys Ser Ser Glu Thr Gly Gly Leu Lys Phe Ala Arg Phe
290 295 300
Asn Ile Pro Ala Asp His Ile Phe Tyr Ser Thr Pro His Ser Phe Val
305 310 315 320
Phe Val Asn Leu Lys Pro Val Thr Asp Gly His Val Leu Val Ser Pro
325 330 335
Lys Arg Val Val Pro Arg Leu Thr Asp Leu Thr Asp Ala Glu Thr Ala
340 345 350
Asp Leu Phe Ile Val Ala Lys Lys Val Gln Ala Met Leu Glu Lys His
355 360 365
His Asn Val Thr Ser Thr Thr Ile Cys Val Gln Asp Gly Lys Asp Ala
370 375 380
Gly Gln Thr Val Pro His Val His Ile His Leu Pro Arg Arg Ala
385 390 395 400
Gly Asp Phe Gly Asp Asn Glu Ile Tyr Gln Lys Leu Ala Ser His Asp
405 410 415
Lys Glu Pro Glu Arg Lys Pro Arg Ser Asn Glu Gln Met Ala Glu Glu
420 425 430
Ala Val Val Tyr Arg Asn Leu Met
435 440

<210> 25
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<212> PRT
<213> Homo sapien

<220>

<221> UNSURE

<222> (6)...(6)

<223> Xaa=unknown amino acid

<400> 25

Pro Leu Ala Ala Ala Xaa Leu Ala Pro Asp Arg Pro Pro Asp Arg Thr
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Leu Arg Met Val Leu Ala Ile Ser Ser Cys Arg Thr Tyr Ser Leu Ser
20 25 30
Arg Arg Pro Arg Leu Gly Phe Ile Thr Arg Pro Pro His Arg Phe Leu
35 40 45
Ser Leu Leu Cys Pro Gly Leu Arg Ile Pro Gln Leu Ser Val Leu Cys
50 55 60
Ala Gln Pro Arg Pro Arg Ala Met Ala Ile Ser Ser Ser Cys Glu
65 70 75 80
Leu Pro Leu Val Ala Val Cys Gln Val Thr Ser Thr Pro Asp Lys Gln
85 90 95
Gln Asn Phe Lys Thr Cys Ala Glu Leu Val Arg Glu Ala Ala Arg Leu
100 105 110
Gly Ala Cys Leu Ala Phe Leu Pro Glu Ala Phe Asp Phe Ile Ala Arg
115 120 125
Asp Pro Ala Glu Thr Leu His Leu Ser Glu Pro Leu Gly Gly Lys Leu
130 135 140
Leu Glu Glu Tyr Thr Gln Leu Ala Arg Glu Cys Gly Leu Trp Leu Ser
145 150 155 160
Leu Gly Gly Phe His Glu Arg Gly Gln Asp Trp Glu Gln Thr Gln Lys
165 170 175
Ile Tyr Asn Cys His Val Leu Leu Asn Ser Lys Gly Ala Val Val Ala
180 185 190
Thr Tyr Arg Lys Thr His Leu Cys Asp Val Glu Ile Pro Gly Gln Gly
195 200 205
Pro Met Cys Glu Ser Asn Ser Thr Met Pro Gly Pro Ser Leu Glu Ser
210 215 220
Pro Val Ser Thr Pro Ala Gly Lys Ile Gly Leu Ala Val Cys Tyr Asp
225 230 235 240
Met Arg Phe Pro Glu Leu Ser Leu Ala Leu Ala Gln Ala Gly Ala Glu
245 250 255
Ile Leu Thr Tyr Pro Ser Ala Phe Gly Ser Ile Thr Gly Pro Ala His
260 265 270
Trp Glu Val Leu Leu Arg Ala Arg Ala Ile Glu Thr Gln Cys Tyr Val
275 280 285
Val Ala Ala Ala Gln Cys Gly Arg His His Glu Lys Arg Ala Ser Tyr
290 295 300
Gly His Ser Met Val Val Asp Pro Trp Gly Thr Val Val Ala Arg Cys
305 310 315 320
Ser Glu Gly Pro Gly Leu Cys Leu Ala Arg Ile Asp Leu Asn Tyr Leu
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Leu Tyr Gly Asn Leu Gly His Pro Leu Ser
355 360

<210> 26
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<212> PRT
<213> Homo sapien

<400> 26
Asp Leu Thr Ser Val Ser Leu Asp Leu Pro Leu Pro Pro Pro Cys
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His Tyr Glu Leu Val Leu Met
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<212> PRT
<213> Homo sapien

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<213> Homo sapien

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<211> 24
<212> PRT
<213> Homo sapien

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Ser His Cys Leu Phe His Gly Asn
20

<210> 30
<211> 5
<212> PRT
<213> Homo sapien

<400> 30
Ser Ser Ala Glu Gly
1 5

<210> 31

<211> 20

<212> PRT

<213> Homo sapien

<400> 31

Ala Ala Leu Ala Leu Lys Asn Ile Ile Ile Ile Lys Ser Lys Lys Lys

1 5 10

15

Lys Lys Lys Lys

20